

**AMENDMENTS TO THE CLAIMS**

**This listing of claims will replace all prior versions and listings of claims in the application:**

**LISTING OF CLAIMS:**

Claim 1-10. (Canceled).

Claim 11. (Currently amended) A microorganism growth substrate comprising:

(a) a ~~sterilized~~sterile nutrient composition, wherein said composition is a derived from the biomass generated from bacterial cells, wherein said bacterial cells comprise:

(i) at least one species of a culture of bacteria including  
methanotrophic bacteria, and

(ii) at least one species of heterotrophic bacteria, further comprising

(b) at least one sterile nutrient added to the biomass, and

(c) optionally ~~containing~~ a diluent.

Claim 12. (Currently amended) The substrate as claimed in claim 11, wherein said at least one sterile nutrient added to the biomass is selected from glucose, nitrate, ~~and~~ mineral salts, and combinations thereof.

Claim 13. (Currently amended) The substrate as claimed in claim 12, wherein ~~the~~ glucose is present in a ~~dry mass basis~~-weight ratio of 5:1 to 1:5, on a dry mass basis relative to the biomass ~~deriving component~~.

Claim 14. (Currently amended) ~~The~~A substrate as claimed in claim 12, wherein ~~the~~ nitrate and mineral salts are present in a weight ratio of 0.01:1 to 0.2:1, relative to the biomass ~~deriving component~~.

Claim 15-24. (Canceled).

Claim 25. (Previously Presented) The substrate as claimed in claim 12, wherein said mineral salts are selected from the group consisting of potassium, calcium, magnesium, sodium, molybdenum, iron, zinc, boron, cobalt, manganese and nickel compounds.

Claim 26. (Currently amended) The substrate as claimed in claim 13, wherein ~~the~~ glucose is present in a ~~dry mass basis~~-weight ratio of 2:1 to 1:2, on a dry mass basis relative to the biomass ~~deriving component~~.

Claim 27. (Currently amended) The substrate as claimed in claim 14, wherein ~~the~~ nitrate and mineral salts are present in a weight ratio of 0.05:1 to 0.1:1, relative to the biomass ~~derived component~~.

Claim 28. (New) The substrate as claimed in claim 11, wherein said at least one species of methanotrophic bacteria includes *Methylococcus capsulatus* (Bath) (strain NCIMB 11132).

Claim 29. (New) The substrate as claimed in claim 28, wherein said at least one species of heterotrophic bacteria includes *Ralstonia* sp. DB3 (strain NCIMB 13287), *Aneurinibacillus* sp. DB4 (strain NCIMB 13288), and *Brevibacillus agri* DB5 (strain NCIMB 13289).

Claim 30. (New) The substrate as claimed in claim 11, wherein the sterilized nutrient composition is a dried autolysate of a bacterial biomass.

Claim 31. (New) The substrate as claimed in claim 11, wherein said biomass is generated from a culture containing at least one species of methanotrophic bacteria and at least one species of heterotrophic bacteria, wherein the methanotrophic bacteria and the heterotrophic bacteria are grown in a culture medium containing methane, oxygen, ammonia, and mineral feeds.

Claim 32. (New) The substrate as claimed in claim 31, wherein said culture is at least 50% by weight methanotrophic bacteria relative to the total bacterial weight.

Claim 33. (New) The substrate as claimed in claim 32, wherein said culture is from 75% to 95% by weight methanotrophic bacteria relative to the total bacterial weight.

Claim 34. (New) The substrate of claim 11, wherein said biomass is a dewatered and sterilized bacterial culture, or is a culture processed by homogenization, hydrolysis, or autolysis.